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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,171	06/30/2003	Chiung-Lun Wu	10239-US-PA	1170
31561	7590	07/30/2004	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			HSIEH, SHIH WEN	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 07/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,171	WU, CHIUNG-LUN	
	Examiner	Art Unit	
	Shih-wen Hsieh	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,7 and 10-13 is/are rejected.
- 7) ☒ Claim(s) 2,3,5,6,8 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 1, 2, 4, 5, 7, 8, 10, 11 and 13 are objected to because of the following informalities:

In regard to:

Claims 1, 7, 11 and 13:

Line 1, please change "**the** print head of a print module" into "a print head of a print module" to correct a minor lack of antecedent basis problem.

Claims 2, 5, 8:

Line 5, please change "**the** traveling path" into "a traveling path " to correct a minor lack of antecedent basis problem.

Lines 5-6/line 6, please change "**the** rotation of the gear" into "a rotation of the gear" to correct a minor lack of antecedent basis problem.

Claim 4 and 10:

Line 1, please change "**the** angle between **the** direction of movement" into "**an** angle between **a** direction of movement" to correct a minor lack of antecedent basis problem.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4, 7 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Holbrook (US Pat. No. 5,663,751).

In regard to:

Claim 1:

Holbrook teaches:

A service station for the print head of a print module in a printing system comprising:

a base (3, fig. 1);

a first direction-changing mechanism (69, 71 and 73, figs. 1-6) set up on the base, refer to col. 4, lines 41-51;

a first moving mechanism (61, figs. 3 and 6) set up on the base and coupled to the first direction-changing mechanism; Examiner's note: coupled through shaft (63, fig. 6), refer to col. 4, lines 41-51;

a wiper (75, 77, figs. 2-6) set up on the first moving mechanism, wherein the print module drives the first direction-changing mechanism and, in turn, drives the first moving mechanism so that the wipers are set in motion to clear away dried ink from the print head, refer to col. 4, line 52 to col. 5, line 53;

a second direction-changing mechanism (45, 55, 56 and 57, figs. 1-5), set up on the base, refer to col. 4, lines 7-24 and col. 5, line 57 to col. 6, line 3;

a second moving mechanism (41, figs. 1-5) set up on the base and coupled to the second direction-changing mechanism; and

at least one cap (47, figs. 1-6) set up on the second moving mechanism, wherein the print module drives the second direction-changing mechanism and, in turn, drives the second moving mechanism so that the cap are moved to a position that seals off the print head, refer to col. 5, line 57 to col. 6, line 3.

Examiner's note:

Linear movement of the carriage causes the rotations of the wiper arm (61) and cap arm (37), these constitute direction changing. The rotation of the arms performs wiping operation and capping operation.

Claim 7:

A service station for the print head of a print module in a printing system, at least comprising:

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a base;

a direction-changing mechanism set up on the base;

a moving mechanism set up on the base and coupled to the direction-changing mechanism; and

a wiper set up on the moving mechanism, wherein the print module drives the direction-changing mechanism and, in turn, drives the moving mechanism so that the wipers are set in motion to clear away dried ink from the print head.

Rejection:

This claim is just a portion of claim 1, and is rejected on the basis as set forth for claim 1 discussed above.

Claim 11:

A method of cleaning the print head of a print module in a printing system wherein the printing system comprises a direction-changing mechanism, a moving mechanism and a wiper such that the direction-changing mechanism and the moving mechanism are coupled and the wiper is connected to the moving mechanism, the method comprising the steps of:

driving the print module to impart a rotary action to the direction-changing mechanism;

generating a linear motion to the moving mechanism by the rotary action of the direction-changing mechanism; and

scraping off dried ink from the print head by the motion of wiper driven by the linear motion of the moving mechanism.

Rejection:

This claim is rejected on the basis as set forth for claim 7 discussed above. The steps in this method claim are deemed to be made inherent by the functions of the structure in the combination discussed above.

Examiner's note:

The rotary action, e.g., for direction-changing mechanism can be seen in fig. 6, where (69) is being pushed by the action between (73) and (71) to rotate in a counter-clockwise direction, please refer to col. 4, lines 46-51, and col. 5, lines 32-47. Since wiper arm (61) coupled to (69) through shaft (63), therefore, the rotation of the (69) also rotates wiper arm (61), then the movement (in a form of rotation) of wiper arm (61) wipes the orifice plate (11).

Claims 4, 10 and 12:

Holbrook further teaches:

wherein the angle between the direction of movement of the print module and the direction of movement of the wiper is greater than or equal to 70° .

Rejection:

Per fig. 1, the direction of movement of the carriage is from left to the right, wiper arm (61) pivots around shaft (63) in a direction across the face of the orifice plate (11) in a direction, which is pointed into the paper in fig. 3, therefore, these two directions are perpendicular to each other and is greater than 70° , i.e., an angle of 90° .

Claim 13:

A method of sealing the print head of a print module in a printing system, wherein the printing system comprises a direction-changing mechanism, a moving mechanism and a cap with the direction-changing mechanism and the moving mechanism coupled together and the cap set up on the moving mechanism, the method comprising the steps of:

driving the print module to impart a rotary action to the direction-changing mechanism;

generating a linear motion to the moving mechanism by the rotary action of the direction-changing mechanism; and

sealing the print head by the motion of the cap driven by the linear motion of the moving mechanism.

Rejection:

This claim is just a portion of claim 1, and is rejected on the basis as set forth for claim 1 discussed above.

The steps in this method claim are deemed to be made inherent by the functions of the structure in the combination discussed above.

Examiner's note:

The rotary action of the direction-changing mechanism can be seen in figs. 2-5.

Allowable Subject Matter

5. Claims 2, 3, 5, 6, 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 2, 3, 5, 6, 8 and 9 is the inclusion of the limitations of the direction-changing mechanism furthermore comprises a gear, a rod and a bumper plate, the gear is connected to the base, one end of the rod connects with the gear, the other end of the rod connects with the bumper plate and the bumper plate is positioned on the traveling path of the print module so that the rotation of the gear caused by the rotation of the rod when the print module acts on the bumper plate drives the moving mechanism. It is this limitation found in each of the claims, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

Conclusion

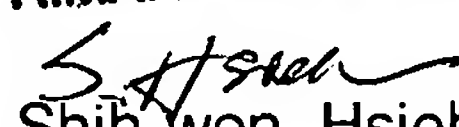
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 408207293 A, "Print head cleaning device in printer" to Aoki, 08/96 teaches in his fig. 1 a wiper (8), supported by wiper holder (7), the holder (7) is coupled to arm (15) through pin (18), an engaging projection (19) of a carriage (4) mounted with a print head (5a) hits (15b) when the carriage travels toward the wiper (8) causing the arm (15) rotates clockwise, and in the meantime, raising the holder (7) upwardly to allow the wiper (8) contact orifice plate of the head so as to wipe the plate.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-wen Hsieh whose telephone number is 571-272-2256. The examiner can normally be reached on 7:30AM -5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S D Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SHIH-WEN HSIEH
PRIMARY EXAMINER

Shih-wen Hsieh
Primary Examiner
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July 28, 2004